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# Encoder WDGN 58E

**www.wachendorff-automation.com/wdgn58e**

**Wachendorff Automation**

**... systems and encoders**

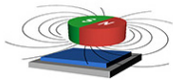
- Complete systems
- Industrial rugged encoders to suit your application
- Standard range and customer versions
- Maximum permissible loads
- 48-hour express production
- Made in Germany
- Worldwide distributor network

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# Encoder WDGN 58E configurable via NFC



Wachendorff Apps WDGN

- Due to high quality electronics any number of pulses up to 16384 configurable via NFC
- HTL/TTL configurable via NFC
- Protection class IP67, at shaft input IP65
- High output frequency up to 1 MHz
- Reverse polarity protection and short-circuit protection at 4.75 VDC to 32 VDC

**www.wachendorff-automation.com/wdgn58e**

## Configurable via NFC

| **Resolution** | |
|---|---|
| Pulses per revolution PPR | 1 PPR up to 16384 PPR |

| **Mechanical Data** | |
|---|---|
| **Housing** | |
| Flange | hollow shaft (blind-bored) |
| Flange material | aluminum |
| Housing cap | Stainless steel, NFC cover: Thermoplastic polyamide |
| Torque supports | incl. 1 torque support WDGDS10001 |
| - 1. Spring plate compensation | axial: ±0.8 mm, radial: ±0.2 mm |
| - Max. operating speed | 6000 rpm up to max. protection rating +60 °C |
| - 2. Cylinder pin 4 mm | needs accessories WDGDS10005 |
| - Compensation | axial: ±0.5 mm, radial: ±1.5 mm, Max. operating speed: 3000 rpm |
| Housing | Ø 58 mm |
| **Shaft(s)** | |
| Shaft material | stainless steel |
| Starting torque | approx. 1.6 Ncm at ambient temperature |
| Fixing | permanently attached clambing ring |
| Shaft | Ø 6 mm |
| Advice | with adapter sleeve |
| Shaft length | L: 12 mm |
| Insertion depth min. | 11 mm |
| Insertion depth max. | 15 mm |
| Max. Permissible shaft loading radial | 80 N |
| Max. Permissible shaft loading axial | 50 N |
| Shaft | Ø 8 mm |
| Advice | with adapter sleeve |
| Shaft length | L: 12 mm |
| Insertion depth min. | 11 mm |
| Insertion depth max. | 15 mm |
| Max. Permissible shaft loading radial | 80 N |
| Max. Permissible shaft loading axial | 50 N |
| Shaft | Ø 10 mm |
| Advice | with adapter sleeve |
| Shaft length | L: 12 mm |
| Insertion depth min. | 11 mm |
| Insertion depth max. | 15 mm |
| Max. Permissible shaft loading radial | 80 N |
| Max. Permissible shaft loading axial | 50 N |
| Shaft | Ø 12 mm |
| Shaft length | L: 12 mm |
| Insertion depth min. | 11 mm |
| Insertion depth max. | 15 mm |
| Max. Permissible shaft loading radial | 80 N |
| Max. Permissible shaft loading axial | 50 N |
| Shaft | Ø 14 mm |
| Shaft length | L: 12 mm |
| Insertion depth min. | 11 mm |
| Insertion depth max. | 15 mm |
| Max. Permissible shaft loading radial | 80 N |
| Max. Permissible shaft loading axial | 50 N |
| Shaft | Ø 15 mm |
| Shaft length | L: 12 mm |
| Insertion depth min. | 11 mm |
| Insertion depth max. | 15 mm |
| Max. Permissible shaft loading radial | 80 N |
| Max. Permissible shaft loading axial | 50 N |

| **Bearings** | |
|---|---|
| Bearings type | 2 precision ball bearings |
| Nominale service life | 1 x 10'9 revs. at 100 % rated shaft load<br>1 x 10'10 revs. at 40 % rated shaft load<br>1 x 10'11 revs. at 20 % rated shaft load |
| Max. operating speed | 6000 rpm |

| **Machinery Directive: basic data safety integrity level** | |
|---|---|
| $MTTF_d$ | 1200 a |
| Mission time (TM) | 25 a |
| Nominale service life (L10h) | 1 x 10'11 revs. at 20 % rated shaft load and 6000 rpm |
| Diagnostic coverage (DC) | 0 % |

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| Electrical Data | |
|---|---|
| Power supply/Current consumption | 4,75 VDC up to 32 VDC: typ. 80 mA |
| Output circuit | HTL<br>HTL, inv.<br>TTL<br>TTL, RS422 compatible, inv. |
| Pulse frequency | HTL up to 16384 ppr: max. 600 kHz<br>TTL up to 16384 ppr: max. 1 MHz |
| Channels | ABN<br>CH4<br>and inverted signals |
| Load | max. 40 mA / channel |
| Circuit protection | inverse-polarity and short-circuit protection |
| | |
| Nullimpuls setzen: | Setzen: SET = +UB für 2 s<br>Deaktiviert: SET = GND |

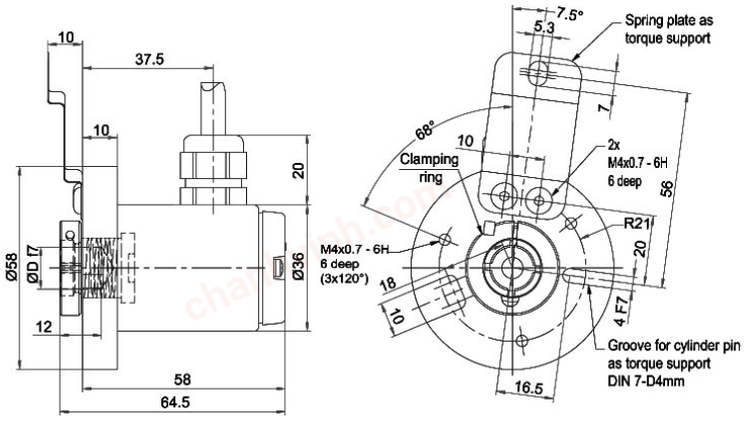
| Accuracy | |
|---|---|
| Phase offset | 90° ± max. 8.5 % of the period duration |
| pulse-/pause-ratio | 50 % ± max. 7 % |

| General Data | |
|---|---|
| Weight | approx. 200 g |
| Connections | cable or connector outlet |
| Protection rating (EN 60529) | Housing: IP65, IP67;<br>shaft sealed: IP65 |
| Operating temperature | Connector: -40 °C up to +85 °C,<br>cable: -20 °C up to +80 °C |
| Storage temperature | Connector: -40 °C up to +100 °C,<br>cable: -30 °C up to +80 °C |

| More Information |
|---|
| General technical data and safety instructions<br>**http://www.wachendorff-automation.com/gtd** |
| Options<br>**http://www.wachendorff-automation.com/acc** |

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## Cable connection L3 radial with 2 m cabel



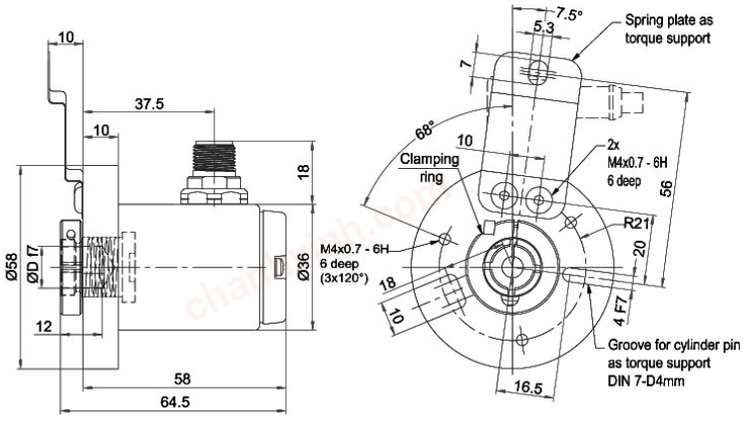

| Description | | ABN inv. poss. |
|---|---|---|
| **L3** | radial, shield connected to encoder housing | • |

| Assignments | | |
|---|---|---|
| | **L3** | **L3** |
| **Circuit** | BAS | ADV |
| **GND** | WH | WH |
| **(+) Vcc** | BN | BN |
| **A** | GN | GN |
| **B** | YE | YE |
| **N** | GY | GY |
| **CH4** | - | GYPK |
| **SET** | - | PK |
| **A inv.** | RD | RD |
| **B inv.** | BK | BK |
| **N inv.** | VT | VT |
| **CH4 inv.** | - | RDBU |
| **Shield** | flex | flex |

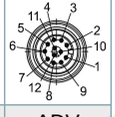
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## Sensor-connector (M12x1) SC radial, 8-, 12-pin




| Description | | ABN inv. poss. |
|---|---|---|
| **SC8** | radial, 8-pin, Connector connected to encoder housing | • |
| **SC12** | radial, 12-pin, Connector connected to encoder housing | • |

| Assignments | | |
|---|---|---|
| | **SC8** | **SC12** |
| | **8-pin** | **12-pin** |
| |  |  |
| **Circuit** | BAS | ADV |
| **GND** | 1 | 3 |
| **(+) Vcc** | 2 | 1 |
| **A** | 3 | 4 |
| **B** | 4 | 6 |
| **N** | 5 | 8 |
| **CH4** | - | 11 |
| **SET** | - | 5 |
| **A inv.** | 6 | 9 |
| **B inv.** | 7 | 7 |
| **N inv.** | 8 | 10 |
| **CH4 inv.** | - | 12 |
| **n. c.** | - | 2 |
| **Shield** | - | - |

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## Options

| Cable length | Order key |
| --- | --- |
| The encoder WDGN 58E can be supplied with more than 2 m cable. The maximum cable length depends on the supply voltage and the frequency; see Downloads: „General technical Data“.<br>Please extend the standard order code with a three figure number, specifying the cable length in decimetres.<br>Example: 5 m cable = 050 | **XXX = Decimeter** |

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| Example Order No. | Type | | | | | Your encoder |
|---|---|---|---|---|---|---|
| WDGN 58E | WDGN 58E | | | | | WDGN 58E |
| | | | | | | |
| | **Bore size** | | | | | |
| 14 | 06; 08; 10; 12; 14; 15 | | | | | |
| | | | | | | |
| | **Pulses per revolution PPR:** | | | | | |
| X | configurable 1-16384<br>Other PPRs on request | | | | | |
| | | | | | | |
| | **Channels:** | | | | | |
| X | ABN, ABN+CH4 | | | | | |
| | | | | | | |
| | **Output circuit** | | | | | |
| BAS | **Resolution PPR** | **Power supply VDC** | **Output circuit** | **Light reserve warning** | **Order key** | |
| | configurable 1-16384 | 4.75 - 32 | configurable HTL, TTL (A,B,N + inv.) | - | BAS | |
| | | 4.75 - 32 | configurable HTL, TTL (A,B,N,CH4 + inv.) | - | ADV | |
| | | | | | | |
| | **Electrical connections** | | | | | |
| L3 | **Description** | | | **ABN inv. poss.** | **Order key** | |
| | **Cable: length (2 m standard, WDG 58T: 1 m)** | | | | | |
| | radial, shield connected to encoder housing | | | • | L3 | |
| | **Connector: (shield connected to encoder housing)** | | | | | |
| | sensor-connector, M12x1, 8-pin, radial | | | • | SC8 | |
| | sensor-connector, M12x1, 12-pin, radial | | | • | SC12 | |
| | | | | | | |
| | **Options** | | | | | |
| | **Description** | | | **Order key** | | |
| | Without option | | | Empty | | |
| | Cable length | | | XXX = Decimeter | | |

| Example Order No.= | WDGN 58E | 14 | X | X | BAS | L3 | | WDGN 58E | | | | | | | Your encoder |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

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For further information please contact our local distributor.
Here you find a list of our distributors worldwide.
https://www.wachendorff-automation.com/

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